

## WHAT IS CLAIMED IS

1. In an electronic radiofrequency identification system including at least one radiofrequency reader and an antenna associated with said radiofrequency reader for generating an interrogation field through which transponders to be identified pass, a method for adjusting detection, transmission and/or reception parameters of  
5 said radiofrequency reader as a function of ambient electromagnetic noise, wherein the method includes at least :  
a step of measuring a level of ambient electromagnetic noise by means of the radiofrequency reader ;  
a step of measuring, by means of the radiofrequency reader, a response of a  
10 reference transponder placed, at least temporarily, in the interrogation field of the antenna associated with the radiofrequency reader, said reference transponder having similar characteristics to the characteristics of the transponders to be identified ; and  
a step of adjusting said detection, transmission and/or reception parameters of the radiofrequency reader on the basis of the measured level of ambient  
15 electromagnetic noise and the measured response of the reference transponder.
2. The method according to claim 1, wherein said reference transponder is permanently placed in the interrogation field of the antenna of the radiofrequency reader.
3. The method according to claim 1, wherein said reference transponder is  
20 placed in the interrogation field of the antenna of the radiofrequency reader before each adjustment of the transmission and/or reception parameters of the radiofrequency reader.
4. The method according to claim 1, wherein said detection, transmission and/or reception parameters of the radiofrequency reader include in particular a  
25 modulation detection threshold, said modulation detection threshold being adjusted during said adjustment step to make it higher than the mean measured level of ambient electromagnetic noise and such that detection of the response transmitted by said reference transponder is essentially insensitive to the ambient electromagnetic noise.
- 30 5. The method according to claim 4, wherein said detection, transmission and/or reception parameters of the radiofrequency reader further include a transmission or reception gain of the radiofrequency reader.
6. The method according to claim 1, wherein said measurement and adjustment steps are repeated iteratively to achieve an optimum result.

7. The method according to claim 1, wherein several settings of the detection, transmission and/or reception parameters of the radiofrequency reader are pre-established and wherein said adjustment step consists in a selection of one of said pre-established settings as a function of the measured level of ambient  
5 electromagnetic noise and the measured response of said reference transponder.

8. The method according to claim 5, including a chronological sequence of the following steps :

- a) measurement of the level of ambient electromagnetic noise ;
- b) adjustment of the modulation detection threshold of the radiofrequency  
10 reader on the basis of the measured ambient electromagnetic noise level ;
- c) activation of the reference transponder so that it temporarily and continuously transmits a response ;
- d) measurement of the level of the response transmitted by the reference transponder ; and
- 15 e) adjustment of the transmission and/or reception gains of the radiofrequency reader as a function of the measured level of the response of the reference transponder.